

Southeastern European Defense Ministerial Conference

ESOH Military Equipment Life Cycle

April

2000



Mr Craig Schilder

**Assistant for Safety, Office of Deputy Under Secretary of
Defense (Environmental Security)**

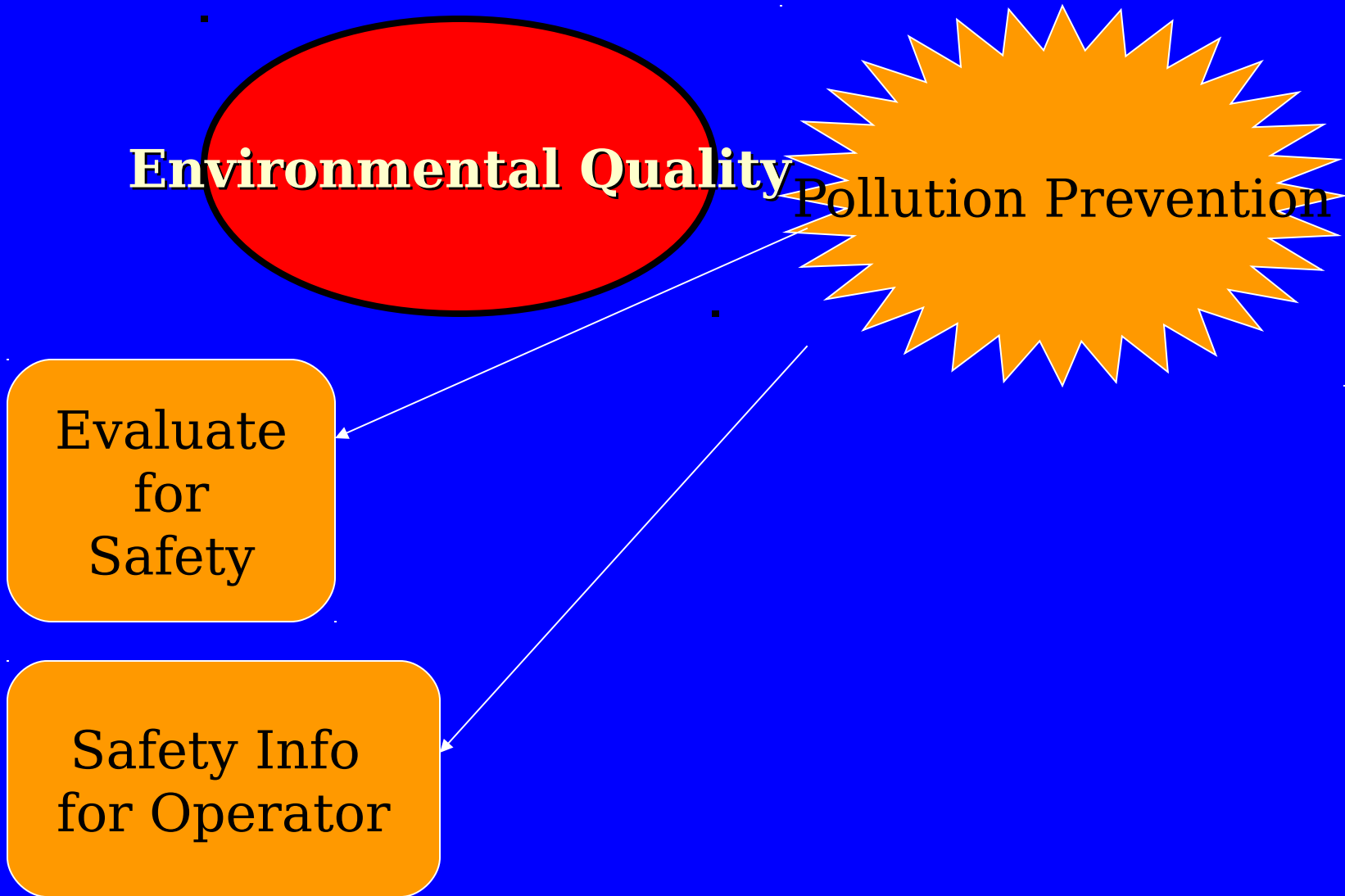
Safety & Health Integration

Environmental Quality

Pollution Prevention

Evaluate
for
Safety

Safety Info
for Operator



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TOXIC FREE FUTURE

HONG KONG



Greenpeace strengthens presence in Asia
with 2 new offices

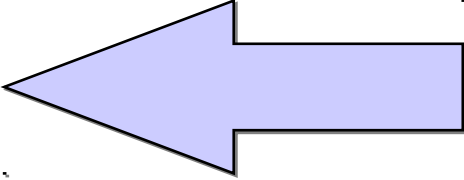
Changing industrial
practices to create
a toxic free future

ENTER



Play Safe
BUY PVC FREE

GREENPEACE



Moving Safety Upstream in the *Design Process*

BUSINESS
CONCEPTS

DESIGN

BUILD

OPERATION

MAINTENANCE

DECOMMISSION

RECYCLE

*Safety
Through
Design*

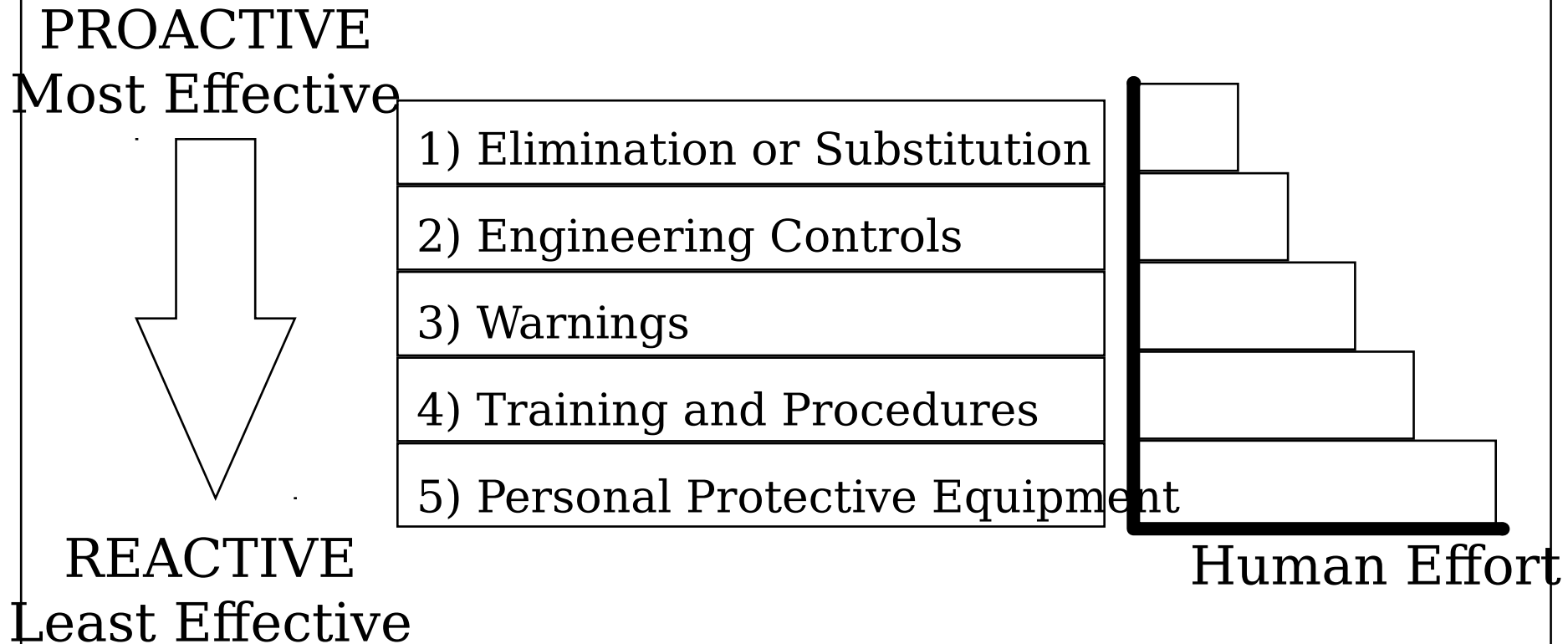
Retrofit

Moving a safety afterthought to a
forethought in process, product,
and facility design

Ease of Safety
Implementation

Cost of Safety
Implementation

Safety Through Design is based on Hierarchy of Controls





Standard Practice for System Safety: MIL-STD-882D

- Acquisition Reform
 - Review contractor process during, not after the fact
 - Encourage risk management, not risk avoidance
 - Past 30 years of system safety success

- What does -882D do for us?
 - Common contractor language
 - Standard system safety methods
 - Reduces contract language
 - Provides safer products

- Tracks hazards, their closures, and residual mishap risk

<http://www.afmc.wpafb.af.mil/HQ-AFMC/SE/ssd.htm>



Environmental Considerations in the Systems Acquisition Process



**A Handbook For
Program Managers**

Chapter 5: Tools and Methods

The previous chapter of this handbook provides details on the environmental actions that should be conducted during the different phases of the acquisition process. This chapter describes some of the management and analytical tools that can be used to accomplish these actions. The figure below illustrates the use of these tools in a typical acquisition process. It is not unusual, however, for many of the tools to be used—at least conceptually—throughout the entire acquisition.

It is not possible to give a complete description of all the tools and methods relevant to environmental planning and management. Therefore, the aim of Chapter 5 is to give the project manager the means to select adequate tools and find relevant references. Tools in this document

QUICK REFERENCE GUIDE

Tools Covered in this Chapter

Management	58
Analysis	62
Control.....	72
Purchasing and Contracting	74
Sources of Information	80

are provided as resources for the program manager. Acquisition program managers should follow the guidance of their individual governments as to which tools are required and recommended for use.

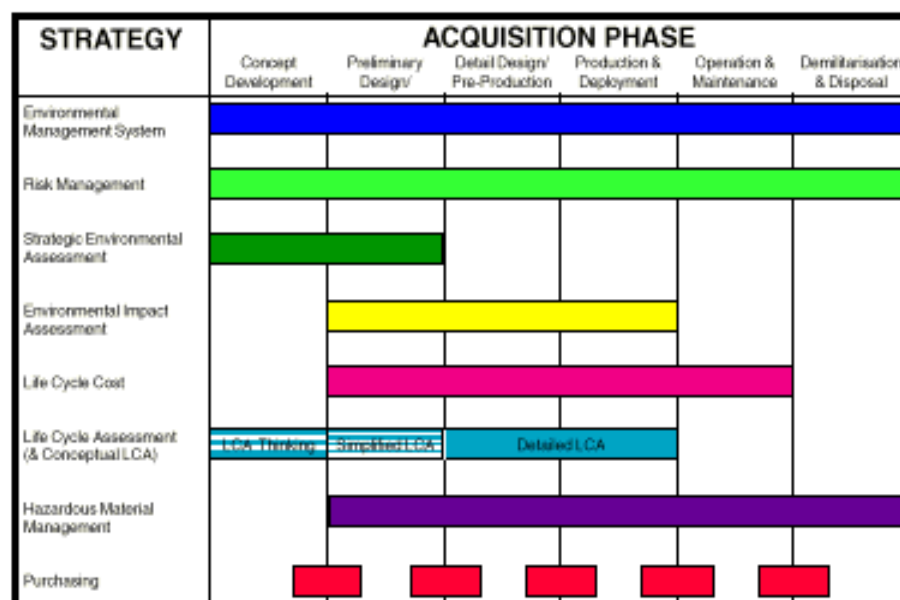


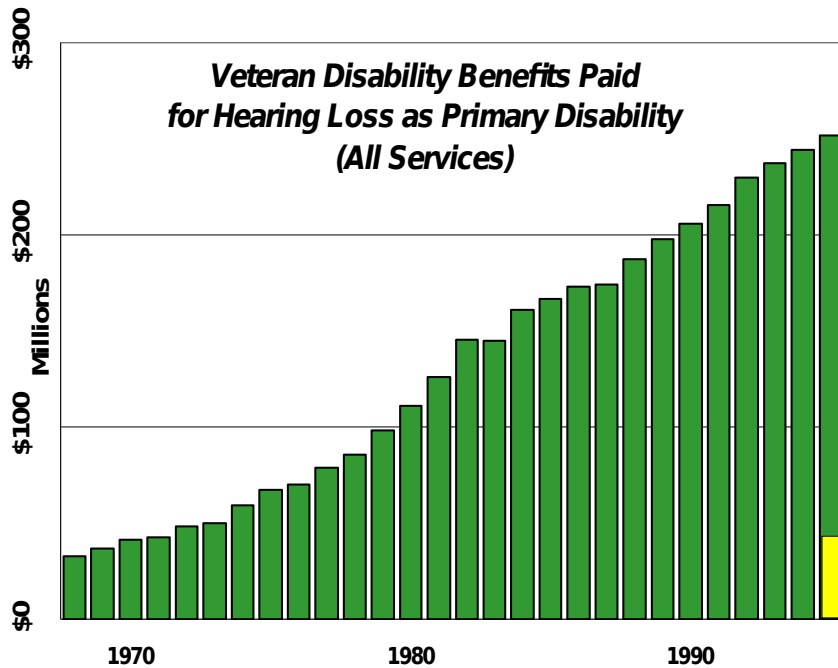
Figure 5.1: Tools Chart

FACILITY SYSTEM SAFETY WORKGROUPS

- Customer Voices
- Designers: in-House/Contract
- Membership:
 - User Non-Safety
 - User Safety
 - Designer/Design Safety
 - Environmental
 - Fire Chief
 - Others



Weapon Systems Noise Impact



Hearing Loss Payments to Military Veterans

Significant Increase

Oil Spill Booms and Ergonomics

- Sailors assume hazardous postures while handling boom
 - Shoulder compression
 - Pinch Grip & Pinch Point
 - Man overboard Incidents

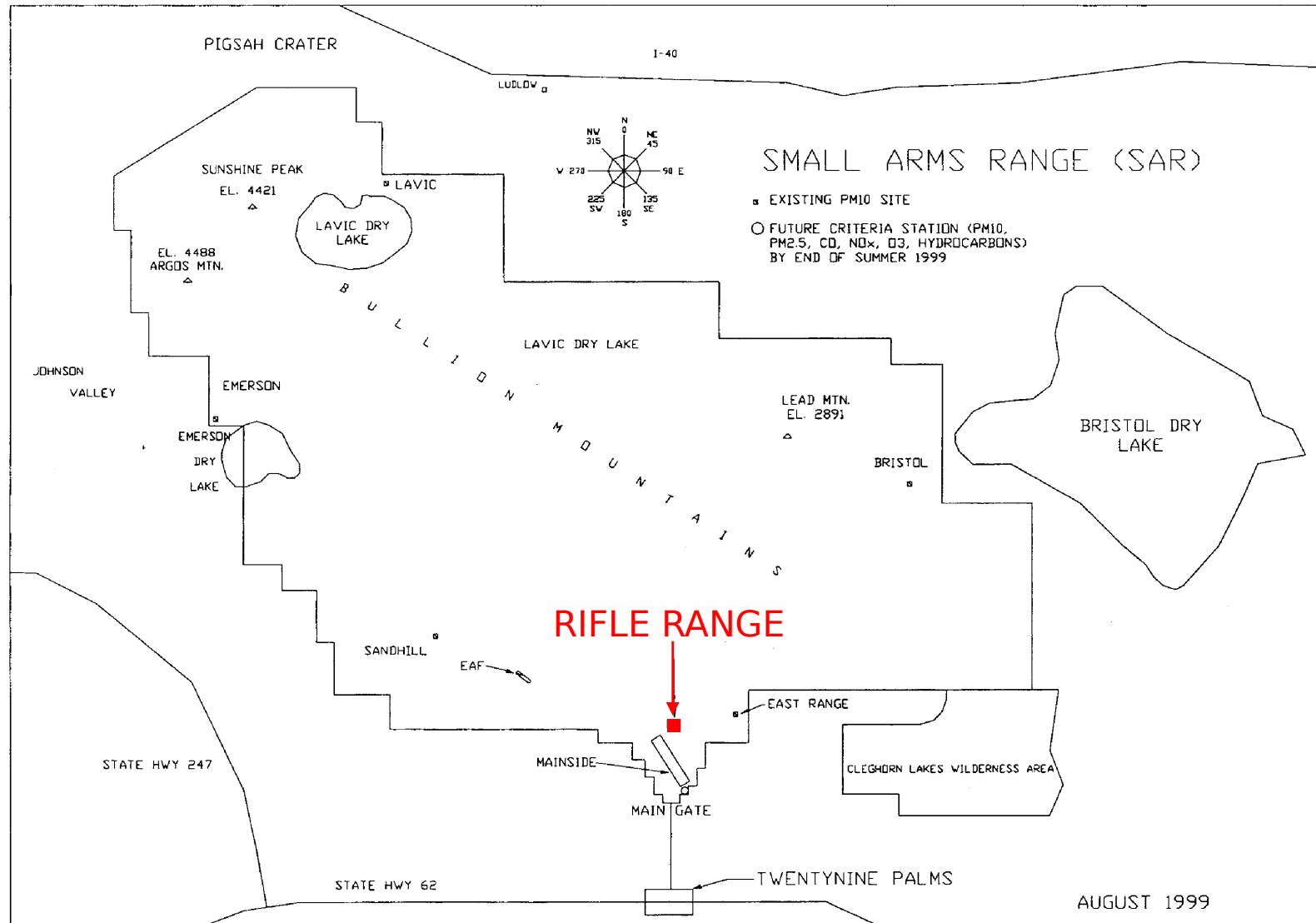


- Ergonomic Design:
add lift handles

Small Arms Ranges Total Containment Trap (TCT)

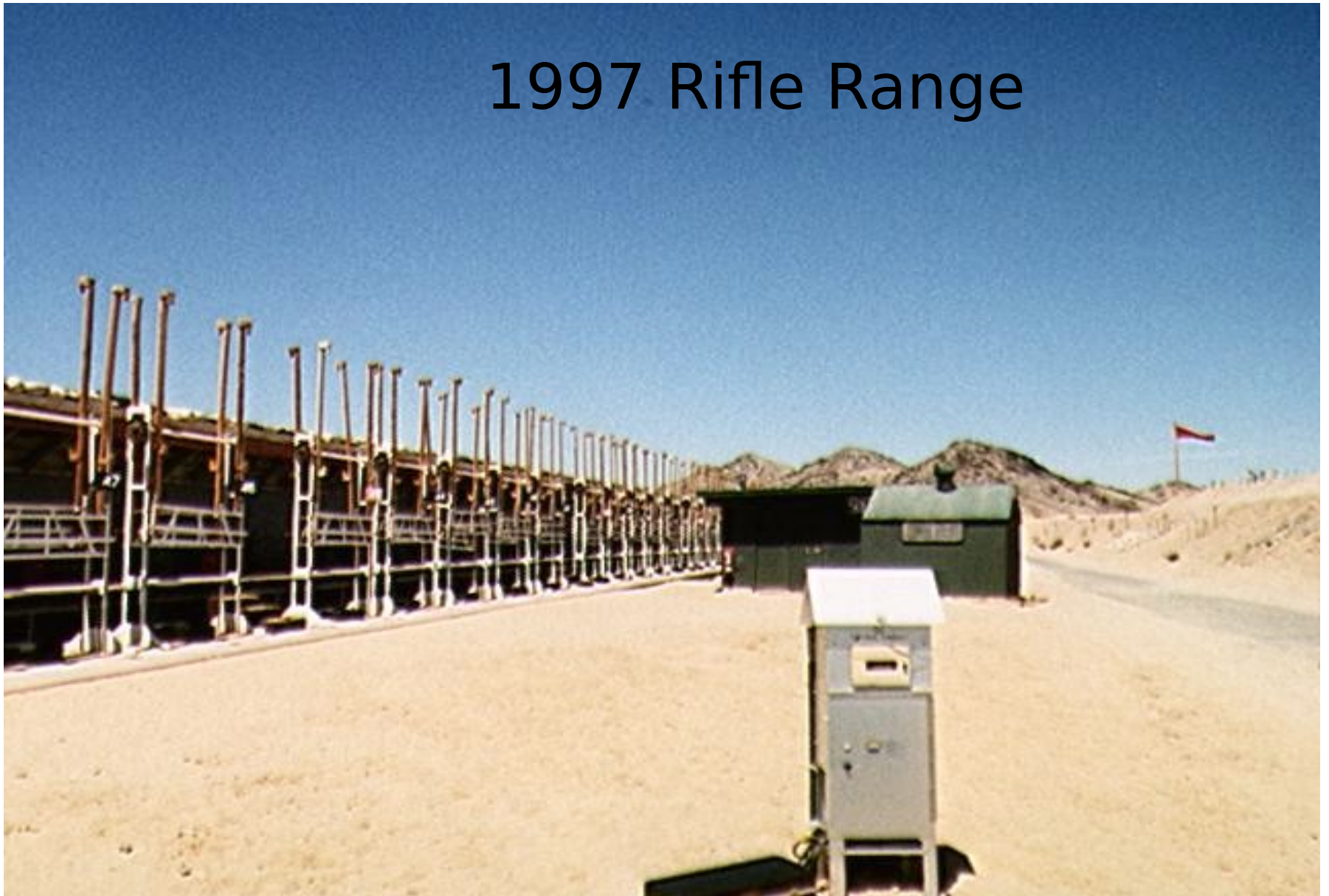
- Rifle Range I, 50 fixed stations
- Pistol Range, 30 fixed station
- Angled 1/4 inch steel plates
- Dust Collection Unit High Efficiency Particulate Air (HEPA) filters
- Sealed removable buckets and barrels

MCAGCC Twentynine Palms, CA

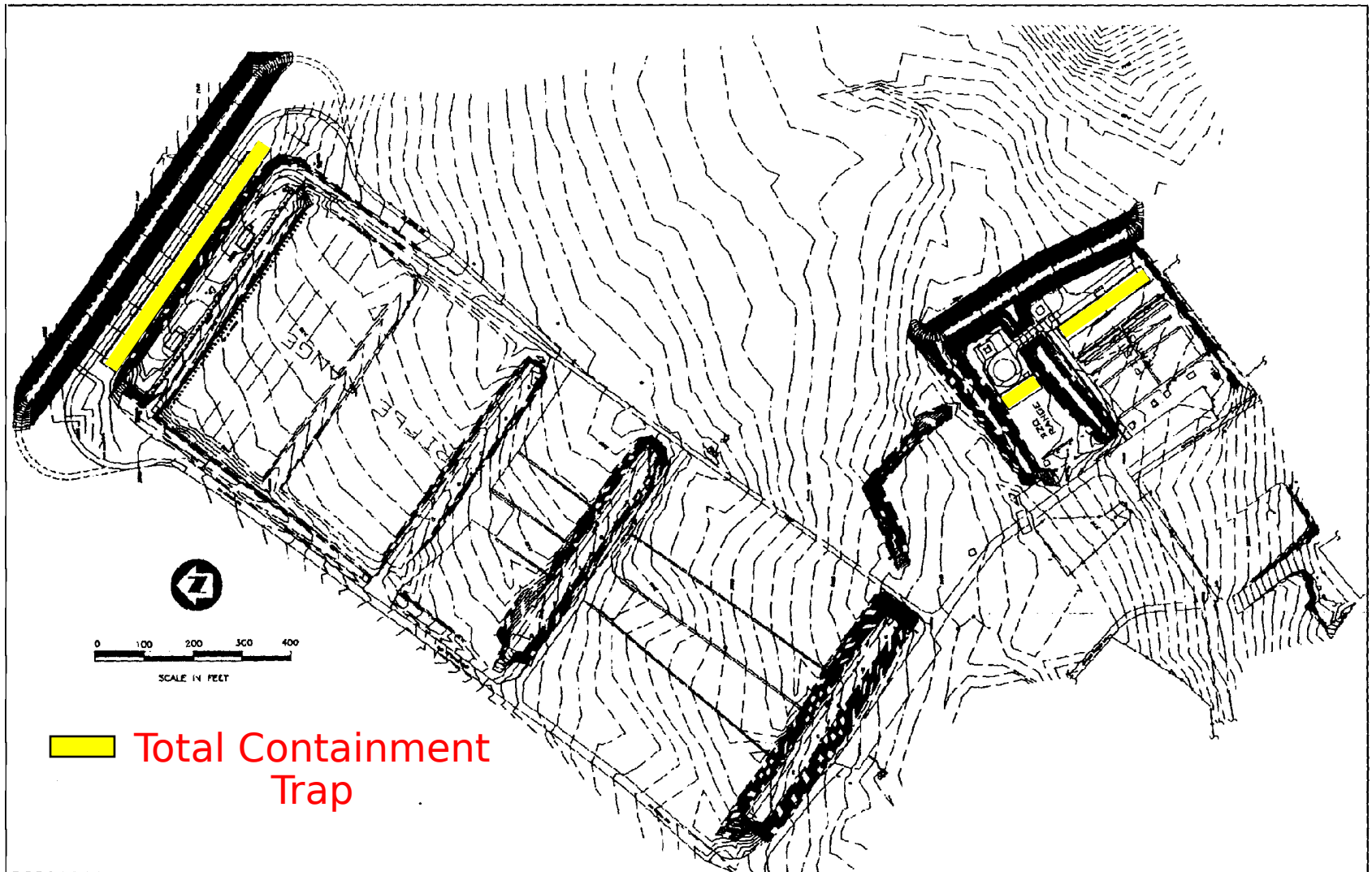




1997 Rifle Range



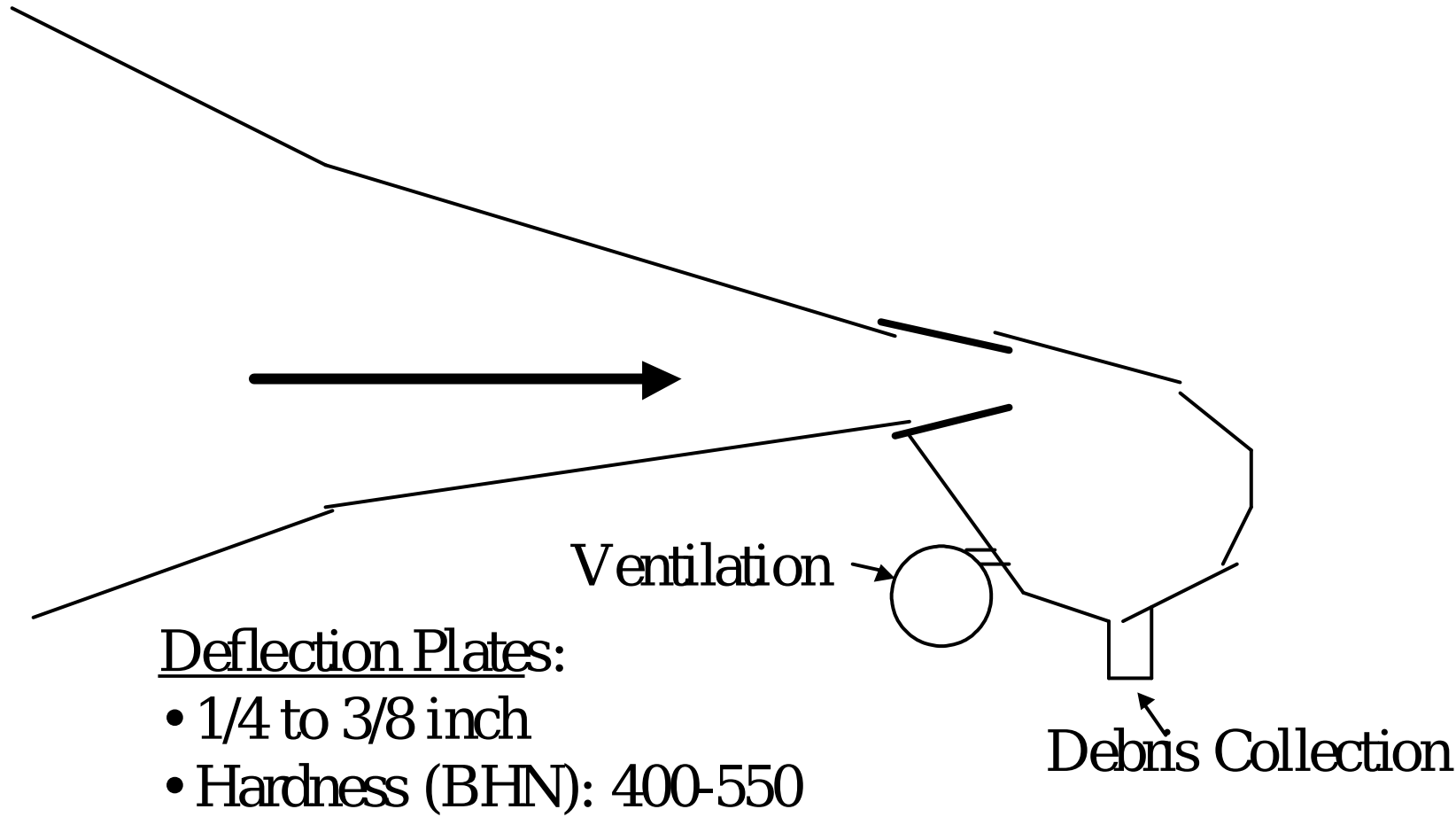
1999 Rifle Range



Total Containment Trap (TCT)



Total Containment Trap



Dust Containment Unit



Total Containment Trap (TCT) Lead Buckets



Total Containment Target Unwanted Ventilation



Total Containment Trap (TCT)





Technical Safety Data Sheets (TSDS)

Acrobat Reader - [P2briefing.pdf]

File Edit View Tools Window Help

EQUIPMENT EVALUATED

- Manual High Pressure Blaster
- Large Parts Washer
- Automated High Pressure Blaster
- 55 Gallon Drum Crusher
- Oxygen Ultrasonic Cleaner
- Safety Storage Locker
- Oil Filter Crusher
- Horizontal High Density Baler
- Vertical Baler
- Maxigrind
- Enzyme Parts Washer
- Tumbler Blaster
- Silver Recovery System
- Closed Loop Wash Rack
- JP-5 Fuel Recycler
- Glovebox Plastic Media Blaster
- Paint Gun Washer
- Solvent Distillation Unit
- HazMat Dispensing Unit
- Tub Grinder
- Grapple Crane
- Straight-Line Baler
- Metal Pre-Crusher
- Aerosol Can Puncturer
- Glass Crusher

Page 5 of 15 97% 11 x 8.5 in



Technical Safety Data Sheets (TSDS)

Acrobat Reader - [tds-form.pdf]

File Edit View Tools Window Help

Technical Safety Data Sheet

Equipment Name:

Manufacturer:

Address

Telephone Number: **Fax Number:**

Date Prepared:

Photograph

Equipment Description:

Precautions for Safe Handling and Use:

Operation:

Maintenance:

Installation:

Health Hazard Data

Chemical Hazard:

Page 1 of 1 126% 8.5 x 11 in



Technical Safety Work Sheet (TSWS)

Acrobat Reader - [tsw-form.pdf]

File Edit View Tools Window Help

HAZARD CATEGORIES	YES	NO	N/A	DISC*
MECHANICAL				
1. Are any parts such as gears, fans, or belts in motion and accessible by the operator? if yes,				
a. Are shields screens, guards, covers, or other barriers provided to protect the operator? (29CFR1910.212)				
b. Is a warning sign provided? (29CFR1910.145)				
c. Are openings in or around guards small enough to prevent operators from inserting fingers? (29CFR1910.212)				
2. Is there a possibility of injury from an inadvertent start or stop of the equipment?				
3. Is the equipment designed to permit lockout protection prior to maintenance or repair? (29CFR1910.147)				
4. Is there a pump? if yes,				
a. Is there a remote shut-down switch? (29CFR1910.305)				
5. Is there a compressor? if yes,				
a. Is there a remote shut-down switch? (29CFR1910.305)				
6. Is there any liquid present in the system? if yes,				
a. Can it cause hydraulic shock by rapid closure of a valve or by other sudden stoppage or repetitive motion? if yes,				
b. Is protection provided for the operator?				
7. Is there any component where mechanical energy could be stored? if yes,				
a. Is adequate information provided in the manufacturer documentation for releasing the energy prior to maintenance or repair? (29CFR1910.147)				
b. Is there a means of isolating the operator from the energy source for maintenance or repair? (29CFR1910.147)				
8. Are there any lifting or lowering devices? if yes,				
a. Are the rated load capacities posted? (29CFR1910.179)				
b. Is a warning provided against loading cables, chains and hoists beyond their rated limits? if yes, (29CFR1910.179)				

Page 1 of 6 126% 8.5 x 11 in



VERTICAL BALER



MAXIGRIND



HORIZONTAL HIGH DENSITY BALER



STRAIGHT-LINE BALER



Technical Safety Data Sheets (TSDS)

P2 Equipment Safety and Health Evaluations - Netscape

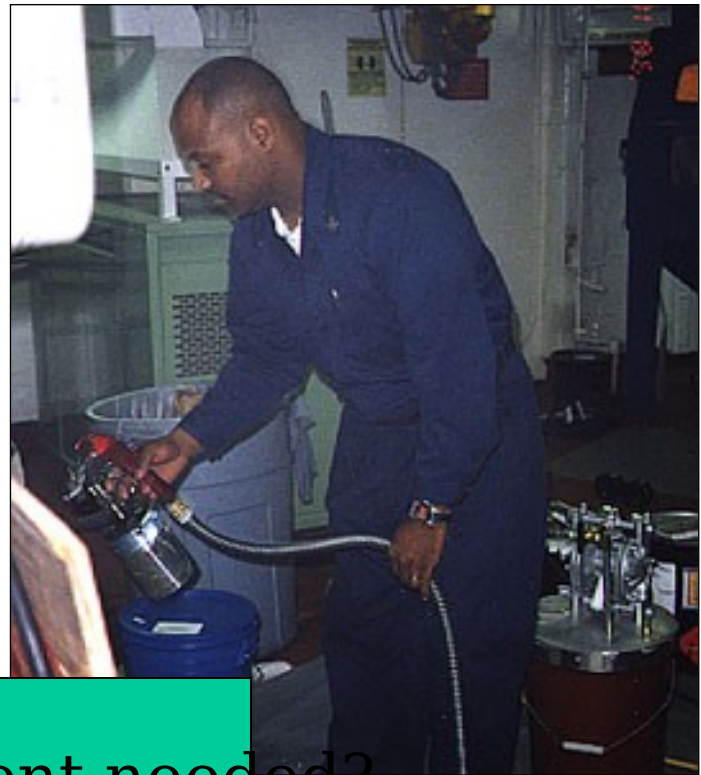
File Edit View Go Communicator Help

Bookmarks Netsite: <http://www.navfac-safety.navy.mil/tsds.htm> What's Related

Equipment Type	Technical Safety Data Sheets	Technical Safety Work Sheets
55 Gallon Drum Crusher (Ram Flat Compactor)	Data Sheet	Work Sheet
Aerosol Can Puncturer (Aerosolv)	Data Sheet	Work Sheet
Automated High Pressure Blast Equipment	Data Sheet	Work Sheet
Closed Loop Wash Rack (Hydroblaster)	Data Sheet	Work Sheet
Enzyme Parts Washer	Data Sheet	Work Sheet
Glass Crusher (Glass Recycling, Inc. Bottle Disintegrator)	Data Sheet	Work Sheet
Glovebox Plastic Media Blaster	Data Sheet	Work Sheet
Grapple Crane (American Hawk H1150TL Bulk Waste Crane)	Data Sheet	Work Sheet
HazMat Dispensing Unit	Data Sheet	Work Sheet
Horizontal Baler (Straight-Line Baler)	Data Sheet	Work Sheet
Horizontal High Density Baler	Data Sheet	Work Sheet
JP-5 Fuel Recycler	Data Sheet	Work Sheet

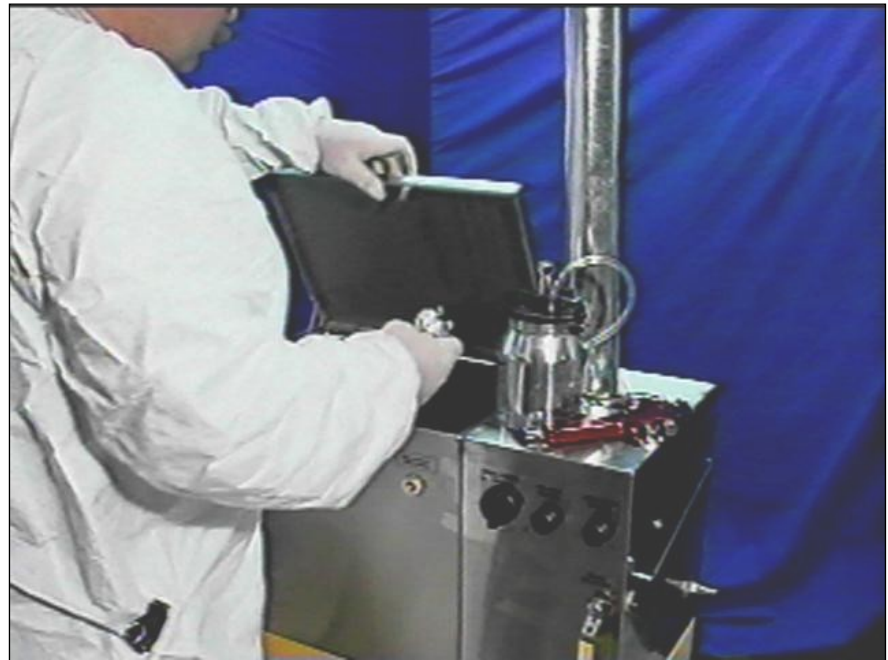
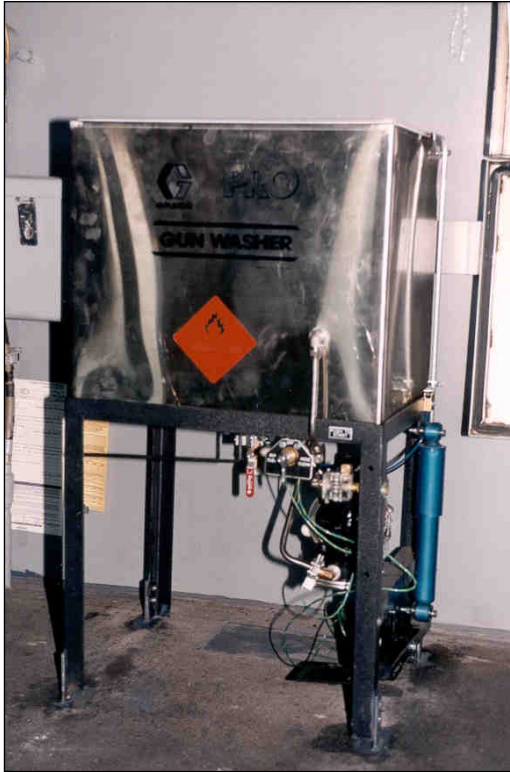
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HVLP Paint Gun System



When protective equipment needed?

Paint Gun Cleaning Station



High Pressure Interlocks?

Vacuum Sanding System



Noise and dust hazards?

Backpack Vacuum



Weight, noise, eye, tripping hazards?

No Lunch Breaks for Safety

